CLAIMS

1. A printing device, comprising:

a pen configured to transfer an imaging medium onto a print media to form a printed diagnostic image;

a sensor configured to detect pen swath optical densities from the printed diagnostic image;

an application component configured to determine a pen swath height error compensation factor from the pen swath optical densities; and

a print media line-feed advance offset configured to be calibrated corresponding to the pen swath height error compensation factor.

2. A printing device as recited in claim 1, wherein the pen is further configured to transfer the imaging medium onto the print media to form multiple sets of printed diagnostic images, and wherein the sensor is further configured to detect the pen swath optical densities from the multiple sets of printed diagnostic images.

3. A printing device as recited in claim 1, wherein the pen is further configured to form the printed diagnostic image with first swath images and at least second swath images.

4. A printing device as recited in claim 1, wherein the pen is further configured to form the printed diagnostic image with overlapping print swath images.

5. A printing device as recited in claim 1, wherein the sensor is further configured to detect pen swath optical densities from multiple sets of print swath images that form the printed diagnostic image, each set of print swath images printed at a different print media line-feed advance offset.

6. A printing device as recited in claim 1, wherein the sensor is further configured to detect pen swath optical densities from multiple sets of print swath images that form the printed diagnostic image, each set of print swath images having a different detectable spacing increment.

7. A printing device as recited in claim 1, wherein the pen is further configured to form the printed diagnostic image with first swath images and second swath images, the second swath images printed after the first swath images and after a print media line-feed advance.

8. A printing device as recited in claim 1, wherein the pen is further configured to form the printed diagnostic image with first swath images and second swath images, and wherein the sensor is further configured to detect different pen swath optical densities from an overlap of the first swath images and corresponding second swath images.

9. A printing device as recited in claim 1, wherein the pen is further configured to form the printed diagnostic image with first swath images and second swath images, and wherein the sensor is further configured to detect different pen swath optical densities from an alignment of the first swath images with corresponding second swath images.

10. A printing device as recited in claim 1, wherein the pen is further configured to form the printed diagnostic image with first swath images and second swath images, the second swath images printed after the first swath images and after a print media line-feed advance, and wherein the sensor is further configured to detect different pen swath optical densities from an offset between the first swath images and corresponding second swath images.

11. A printing device as recited in claim 1, wherein the application component is further configured to average multiple pen swath optical densities to determine the pen swath height error compensation factor.

12. A printing device as recited in claim 1, further comprising at least a second pen configured to transfer an imaging medium onto the print media to form a second printed diagnostic image, wherein:

the sensor is further configured to detect second pen swath optical densities from the second printed diagnostic image;

the application component is further configured to determine a second pen swath height error compensation factor from the second pen swath optical densities;

the application component is further configured to determine an optimal swath height error compensation factor from the pen swath height error compensation factor and the second pen swath height error compensation factor; and

the print media line-feed advance offset is further configured to be calibrated corresponding to the optimal swath height error compensation factor.

13. A printing device as recited in claim 1, further comprising at least a second pen configured to transfer an imaging medium onto the print media to form a second printed diagnostic image, wherein:

the sensor is further configured to detect second pen swath optical densities from the second printed diagnostic image;

the application component is further configured to determine a second pen swath height error compensation factor from the second pen swath optical densities; and

the print media line-feed advance offset is further configured to be calibrated corresponding to the second pen swath height error compensation factor.

14. A printing device as recited in claim 13, wherein the application component is further configured to average the pen swath optical densities and the second pen swath optical densities to determine an averaged swath height error compensation factor.

15. A printing device as recited in claim 13, wherein the application component is further configured to average the pen swath optical densities and the second pen swath optical densities to determine an averaged swath height error compensation factor, and wherein the print media line-feed advance offset is further configured to be calibrated corresponding to the averaged swath height error compensation factor.

16. A printing device, comprising:

a pen configured to transfer an imaging medium onto a print media to form a printed diagnostic image;

a sensor configured to detect pen swath optical densities from the printed diagnostic image; and

an application component configured to determine a print media line-feed advance offset from the pen swath optical densities.

17. A printing device as recited in claim 16, wherein the pen is further configured to transfer the imaging medium onto the print media to form multiple sets of printed diagnostic images, and wherein the sensor is further configured to detect the pen swath optical densities from the multiple sets of printed diagnostic images.

18. A printing device as recited in claim 16, wherein the pen is further configured to print first swath images and at least second swath images to form the printed diagnostic image.

19. A printing device as recited in claim 16, wherein the pen is further configured to print first swath images and second swath images to form the printed diagnostic image, the second swath images printed after the first swath images and after a print media line-feed advance.

20. A printing device as recited in claim 16, wherein the pen is further configured to print first swath images and second swath images to form the printed diagnostic image, and wherein the sensor is further configured to detect different pen swath optical densities from an overlap of the first swath images and corresponding second swath images.

21. A printing device as recited in claim 16, wherein the pen is further configured to print first swath images and second swath images to form the printed diagnostic image, and wherein the sensor is further configured to detect different pen swath optical densities from an alignment of the first swath images with corresponding second swath images.

22. A printing device as recited in claim 16, wherein the pen is further configured to print first swath images and second swath images to form the printed diagnostic image, the second swath images printed after the first swath images and after a print media line-feed advance, and wherein the sensor is further configured to detect different pen swath optical densities from an offset between the first swath images and corresponding second swath images.

23. A printing device as recited in claim 16, wherein the application component is further configured to average multiple pen swath optical densities to determine the print media line-feed advance offset.

24. A printing device as recited in claim 16, further comprising at least a second pen configured to transfer an imaging medium onto the print media to form a second printed diagnostic image, wherein:

the sensor is further configured to detect second pen swath optical densities from the second printed diagnostic image; and

the application component is further configured to determine an optimal print media line-feed advance offset from the pen swath optical densities and the second pen swath optical densities.

25. A printing device as recited in claim 24, wherein the application component is further configured to average the pen swath optical densities and the second pen swath optical densities.

26. A method to correct printing mechanism swath height and line-feed advance errors, comprising:

printing a diagnostic image on a print media;

detecting pen swath optical densities from the diagnostic image;

determining an error compensation factor from the pen swath optical densities; and

offsetting a print media line-feed advance corresponding to the error compensation factor.

27. A method as recited in claim 26, further comprising printing multiple sets of diagnostic images on the print media, and wherein detecting includes detecting the pen swath optical densities from the multiple sets of diagnostic images.

28. A method as recited in claim 26, wherein printing includes forming the diagnostic image with first swath images and second swath images.

29. A method as recited in claim 26, wherein printing includes printing first swath images on the print media, advancing the print media, and printing second swath images on the print media, the first swath images and the second swath images forming the diagnostic image.

30. A method as recited in claim 26, wherein printing includes forming the diagnostic image with first swath images and second swath images, and wherein detecting includes detecting different pen swath optical densities from an overlap of the first swath images and corresponding second swath images.

31. A method as recited in claim 26, wherein printing includes forming the diagnostic image with first swath images and second swath images, and wherein detecting includes detecting different pen swath optical densities from an alignment of the first swath images with corresponding second swath images.

32. A method as recited in claim 26, wherein printing includes printing first swath images on the print media, advancing the print media, and printing second swath images on the print media, the first swath images and the second swath images forming the diagnostic image, and wherein detecting includes detecting different pen swath optical densities from an offset between the first swath images and corresponding second swath images.

33. A method as recited in claim 26, wherein determining includes averaging multiple pen swath optical densities to determine the error compensation factor.

34. A method as recited in claim 26, further comprising printing a second diagnostic image on the print media, wherein:

detecting includes detecting second pen swath optical densities from the second diagnostic image;

determining includes determining an optimal error compensation factor from the pen swath optical densities and the second pen swath optical densities; and

offsetting includes offsetting the print media line-feed advance corresponding to the optimal error compensation factor.

35. A method as recited in claim 26, further comprising printing a second diagnostic image on the print media with at least a second pen, wherein:

detecting includes detecting second pen swath optical densities from the second diagnostic image;

determining includes determining a second error compensation factor from the second pen swath optical densities; and

offsetting includes offsetting the print media line-feed advance corresponding to the second error compensation factor.

36. A method as recited in claim 35, wherein determining further includes averaging the pen swath optical densities and the second pen swath optical densities to determine an averaged error compensation factor, and wherein offsetting further includes offsetting the print media line-feed advance corresponding to the averaged error compensation factor.

37. A method to determine a printing device media line-feed advance offset, comprising:

printing first swath images and second swath images;

detecting a first optical density correlating to a first offset between the first swath images and corresponding second swath images;

detecting at least a second optical density correlating to a second offset between the first swath images and corresponding second swath images;

determining the printing device media line-feed advance offset from the detected optical densities.

38. A method as recited in claim 37, wherein determining includes averaging the detected optical densities.

39. A method as recited in claim 37, wherein determining includes selecting a lowest optical density value from the detected optical densities.

40. A method as recited in claim 37, wherein printing includes printing the first swath images and second swath images with one pen to form a diagnostic image.

41. A method as recited in claim 37, further comprising detecting multiple optical densities correlating to multiple different offsets between the first swath images and corresponding second swath images, and wherein determining includes determining an optimal optical density from the detected multiple optical densities.

42. One or more computer-readable media comprising computer executable instructions that, when executed, direct a printing device to perform a method comprising determining a pen swath height and print media line-feed advance error compensation factor from pen swath optical densities detected from a printed diagnostic image.

43. One or more computer-readable media as recited in claim 42, wherein the method further comprises calibrating a print media line-feed advance offset corresponding to the error compensation factor.

44. One or more computer-readable media comprising computer executable instructions that, when executed, direct a printing device to perform a method to correct printing mechanism swath height and line-feed advance errors, comprising:

printing a diagnostic image on a print media;

detecting pen swath optical densities from the diagnostic image; and

determining a line-feed advance offset from the pen swath optical densities.

45. One or more computer-readable media as recited in claim 44, wherein the method further comprises printing multiple sets of diagnostic images on the print media, and wherein detecting includes detecting the pen swath optical densities from the multiple sets of diagnostic images.

46. One or more computer-readable media as recited in claim 44, wherein printing includes printing first swath images and second swath images to form the diagnostic image.

47. One or more computer-readable media as recited in claim 44, wherein printing includes printing first swath images on the print media, advancing the print media, and printing second swath images on the print media, the first swath images and the second swath images forming the diagnostic image.

48. One or more computer-readable media as recited in claim 44, wherein printing includes printing first swath images and second swath images to form the diagnostic image, and wherein detecting includes detecting different pen swath optical densities from an overlap of the first swath images and corresponding second swath images.

49. One or more computer-readable media as recited in claim 44, wherein printing includes printing first swath images and second swath images to form the diagnostic image, and wherein detecting includes detecting different pen swath optical densities from an alignment of the first swath images with corresponding second swath images.

50. One or more computer-readable media as recited in claim 44, wherein printing includes printing first swath images on the print media, advancing the print media, and printing second swath images on the print media, the first swath images and the second swath images forming the diagnostic image, and wherein detecting includes detecting different pen swath optical densities from an offset between the first swath images and corresponding second swath images.

51. One or more computer-readable media as recited in claim 44, wherein determining includes averaging multiple pen swath optical densities to determine the line-feed advance offset.

52. One or more computer-readable media as recited in claim 44, wherein the method further comprises printing a second diagnostic image on the print media, wherein:

detecting includes detecting second pen swath optical densities from the second diagnostic image; and

determining includes determining an optimal line-feed advance offset from the pen swath optical densities and the second pen swath optical densities.